

Claims:

1. (Currently amended) A method of manufacturing a polyisocyanurate foam insulation board, the method comprising:

contacting a stream of reactants that comprise an isocyanate-reactive compound with a stream of reactants that include an isocyanate compound to form a reaction product, where said step of contacting takes place in the presence of a blowing agent and nitrogen or air, where the blowing agent is selected from the group consisting of alkanes, (cyclo)alkanes, hydrofluorocarbons, hydrochlorofluorocarbons, fluorocarbons, fluorinated ethers, alkenes, alkynes and noble gases and a low-boiling inert gas, and where the amount of low-boiling inert gas nitrogen or air present at the time of said contacting is sufficient ~~to result in frothing of the reaction product~~ greater than 1.25 times the amount of the Bunsen Coefficient for nitrogen within the stream of reactants that comprise an isocyanate-reactive compound.

2. (Currently amended) The method of claim 1, where said amount of ~~low-boiling inert gas~~ nitrogen or air is an amount that is sufficient to increase the volume of the reaction product by at least 1.25.

3. (Currently amended) The method of claim 1, where said amount ~~low-boiling inert gas~~ nitrogen or air is an amount that is sufficient to increase the volume of the reaction product by at least 1.5.

4. (Currently amended) The method of claim 1, where said amount of amount ~~low-boiling inert gas~~ nitrogen or air is an amount that is sufficient to increase the volume of the reaction product by at least 2.0.

5. Cancelled

6. (Currently amended) The method of claim 1, where said amount of ~~low-boiling inert gas~~ nitrogen or air is greater than 1.5 times the amount of the Bunsen Coefficient

for the ~~low-boiling inert gas~~ nitrogen or air within the stream of reactants that comprise an isocyanate-reactive compound.

7. (Currently amended) The method of claim 1, where said amount of ~~low-boiling inert gas~~ nitrogen or air is greater than 2.0 times the amount of the Bunsen Coefficient for the ~~low-boiling inert gas~~ nitrogen or air within the stream of reactants that comprise an isocyanate-reactive compound.

8-9 Cancelled

10. (Currently amended) In a method of manufacturing polyisocyanurate insulation boards, the method being of the type that includes contacting a stream of reactants that include an isocyanate-reactive compound with a stream of reactants that include an isocyanate compound to produce a reaction product, where the step of contacting takes place within a mix head in the presence of a blowing agent selected from the group consisting of alkanes, (cyclo)alkanes, hydrofluorocarbons, hydrochlorofluorocarbons, fluorocarbons, fluorinated ethers, alkenes, alkynes and noble gases, the improvement comprising adding ~~low-boiling inert gas~~ nitrogen or air to at least one of the stream of reactants prior to the reaction product exiting the mix head, where the amount of ~~low-boiling inert gas~~ nitrogen or air that is added is sufficient to cause the reaction product to froth within two seconds of leaving the mix head is greater than 1.25 times the amount of the Bunsen Coefficient for the nitrogen or air within the stream of reactants that comprise an isocyanate-reactive compound.

11. (Currently amended) The method of claim 10, where the ~~low-boiling inert gas~~ nitrogen or air is added to the stream of reactants including an isocyanate-reactive compound.

12. (Currently amended) The method of claim 11, where said amount of ~~low-boiling inert gas~~ nitrogen or air is an amount that is sufficient to increase the volume of the reaction product by at least 1.25.

13-15 Cancelled

16. (Currently amended) A method for increasing the dimensional stability of polyisocyanurate foams, the method comprising:

providing an A-side stream of reactants that include an isocyanate;

providing a B-side stream of reactants that include a isocyanate reactive component and a blowing agent selected from the group consisting of alkanes, (cyclo)alkanes, hydrofluorocarbons, hydrochlorofluorocarbons, fluorocarbons, fluorinated ethers, alkenes, alkynes and noble gases;

adding a ~~low-boiling inert gas~~ nitrogen or air to the A-side or B-side stream of reactants where the amount of nitrogen or air added to the B-side stream of reactants is an amount sufficient to increase the amount of nitrogen within the B-side stream of reactants to an amount that is greater than 1.25 times the Bunsen Coefficient for the nitrogen or air within the B-side stream of reactants;

contacting the A-side and B-side reactants within a mix head to form a developing foam; and

depositing the foam onto a laminator.

17. (Currently amended) The method of claim 16, where the amount of ~~low-boiling inert gas~~ nitrogen or air added is an amount that will increase the volume of the developing foam by at least 1.5.

18. (Currently amended) The method of claim 17, where the amount of ~~low-boiling inert gas~~ nitrogen or air added is an amount that will increase the volume of the developing foam by at least 2.0.

19-20 Cancelled

21. (New) The method of claim 1, where the blowing agent includes n-pentane, isopentane cyclopentane, and mixtures thereof.

22. (New) The method of claim 1, where the blowing agent is devoid of hydrofluorocarbons and hydrochlorofluorocarbons.

23. (New) The method of claim 10, where the blowing agent includes n-pentane, isopentane cyclopentane, and mixtures thereof.

24. (New) The method of claim 10, where the blowing agent is devoid of hydrofluorocarbons and hydrochlorofluorocarbons.

25. (New) The method of claim 16, where the blowing agent includes n-pentane, isopentane cyclopentane, and mixtures thereof.

26. (New) The method of claim 16, where the blowing agent is devoid of hydrofluorocarbons and hydrochlorofluorocarbons.

27. (New) The method of claim 1, where said step of contacting takes place in the presence of a blowing agent and nitrogen.

28. (New) The method of claim 16, where said step of adding includes adding nitrogen to the A-side or B-side stream of reactants.

29. (New) The method of claim 16, where said step of adding includes adding nitrogen or air to the B-side stream of reactants.